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CANADIAN TEXTILE JOURNAL

VOL. XXXIX Gardenvale, P.Q., January 3, 1922 No. 1

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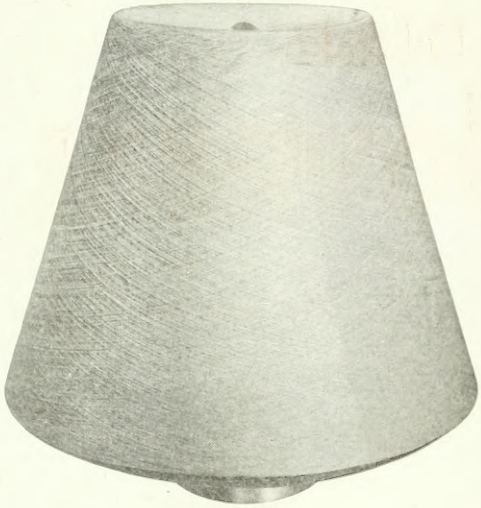

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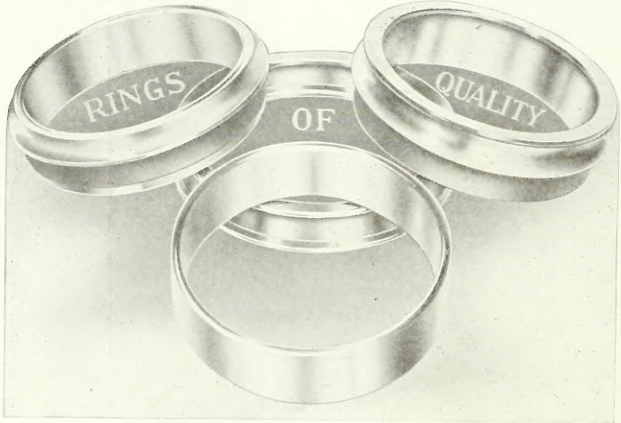

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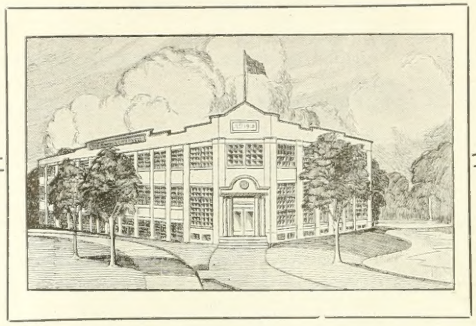

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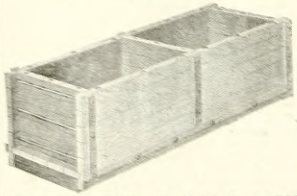

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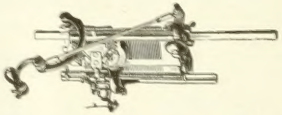

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question of good circulation is of especial importance in the bleaching of linen. A new ingenious type of bleaching kier is now being largely adopted in the United States. It is known as the Jefferson kier. The cloth may be packed into this kier as tightly as possible, the usual care being, of course, exercised to plate evenly. The alkali is then let in and the water run from the bottom up to within about one quarter the depth of the cloth from the top. The solution is therefore about 25 per cent stronger than in a flooded kier. Chains or ropes are employed to keep the goods from floating, due care being exercised not to fill the goods within 10 in. of the chains when cold, thus leaving room for expansion, and for the rising and falling action of the cloth which is peculiar to this type of kier. The circulating device is now put in action, the steam valve of the controller being turned, and the liquor thrown in on the top of the goods. It is stated that only about 20 seconds is taken to empty the outside tank of from 100 to 250 gallons, according to the size of the kier. The bottom valve of the kier is automatically closed, and no liquor is allowed to be drawn out with the result that the liquor line is raised, and the goods gradually floated up to the chains. By this means the mass of material is opened up so that the alkalies can thoroughly permeate the mass.

Cotton and Artificial Silk embroideries are in certain cases dyed in packing apparatus which is used mainly with a view to effecting penetration of thick embroidery work, and preserving the quality of the material. The embroideries are rolled up evenly and placed in layers in the apparatus.

A NEW WOOL FIRM WITH AN OLD NAME.

For many years the firm of Richard Fawcett & Sons, of Bradford, Eng., one of the oldest wool firms in England, have been doing business with the Canadian and United States mills through a representative on this side and for some time past Mr. George W. Thorpe has acted in that capacity. The growth of their business in recent years has necessitated the forming of a Canadian company with warehouses so that large stocks could be carried on hand to meet the immediate needs of their clientele. In September, the firm of Richard Fawcett & Sons (Canada), Limited, was formed, with Mr. Thorpe, their former representative, as Canadian manager. The new company have head offices and warehouse in the Foy Building, Toronto, and have established branches at Boston, Mass., Port Elizabeth, Spain, South Africa, Buenos Aires, South America. They are carrying in stock a full line of Merino Tops, Fine Crossbred tops (oil and dry), Cape Wools, South American Wools and Australian Wools of all descriptions, either greasy or scoured, and as well are exporters of all classes of wools, top noils, laps waste, etc. The splendid reputation of the name of Fawcett in the wool business of both continents ensures a successful future for this firm.

SPINNING VALUES OF COTTON.

Tests Show that Waste Follows the Grade and the Highest Grade Does Not Always Give Strongest Yarn.

Tests to determine the relative spinning values of the various grades of cotton included in the official standards for colour for upland tinged and stained cotton have been completed by the Bureau of Markets and Crop Estimates, United States Department of Agriculture, and the results published in Department Bulletin 990.

Low middling, good middling yellow tinged, middling yellow tinger, low middling yellow tinged, good middling yellow stained, middling yellow stained, good middling blue stained, and middling blue stained cotton selected throughout the cotton belt were used in the experiments. All the grades were subjected to the same mechanical conditions, which were those used on earlier tests of the official standards for upland white cotton.

From the percentage of visible waste it appears that the waste follows the grade of cotton. The breaking tests showed that the highest grade did not always give the strongest yarn. It was found too, low middling, good middling yellow tinged, good middling yellow stained, and middling yellow stained can be bleached satisfactorily for white yarns. The middling yellow tinged and low middling yellow tinged when bleached can be used for dyeing both light and dark shades. The good middling blue stained and middling blue stained can be bleached satisfactorily for dyeing dark shades only.

SOCIAL EVENING IN TORONTO.

Representatives of the wool industry in Toronto look forward to the annual entertainment given by Mr. Leslie Biggin, manager of the Canadian Wool Company, Limited, at his home, and every year proves a more enjoyable evening than the past. The Toronto representative of the Canadian Textile Journal was among those who were entertained by Mr. and Mrs. Biggin, on the evening of December 17th, and with the others present voted it "the best ever."

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permitting such compression. By this means what really amounts to a solid mass of yarn is threaded on the spindle, and there are no interstices through which the dye liquor can flow. All the dye liquor is made to pass through the yarn evenly, and uniformly, so that equal dyeing is secured. All that is required to reverse the flow of the liquor is to move a lever attached to a valve. While many dyes will give perfectly level results with no change in the flow of liquor whatever, practice has shown that with colours that normally do not level easily the best results are to be obtained by allowing the liquor to flow twice as long from the outside in, as from the inside out. To the latest type plants thermostats are filled which will regulate the steam valve 1 deg. above or below the required temperature.

When dried the cheeses can be taken to a pirning machine, and the yarn wound off on to pirns for the loom. A small aluminum cup is here employed threaded over the spindle carrying the cheese. This is to increase ballooning, and is found of value when fine yarns are being wound. If intended for warp, the yarn packages can be creeled, and the yarn wound direct to the beam. This concern has established a works at West Street, Denton, Lancashire, to which a testing department is attached and any firm can have yarn dyed as they wish, first of all being assured by production in this department that the desired results can be secured. Already advantage has been taken of this offer by many well-known British firms. The comparatively small floor space occupied by the dyeing plant proper has surprised many visitors to the works. On this 10,000 lbs. weight of yarn can be dyed per day, two men only being required to perform all the duties necessary to the various processes between the winding machine and the drier. To facilitate operations the dye liquor is mixed in vats which are conveyed by overhead transport to the vats for the dyeing kiers. One particular feature of the machine is the small sample kier that forms part of it. By utilizing this small kier an exact replica of the cheeses dyed in the large kier can be secured.

The pumps, valves, steam and water piping are compactly arranged below the dyehouse, and the general compactness of the whole plant is one of its most distinctive characteristics. In the drying room special runways and carriers have been devised to expediate the work, and reduce handling. Skeleton frames having a number of small domes carry the cheese in a vertical position, and these frames having ball bearing wheels moving on runways can be quickly placed in, or removed from the drying chambers. Both cotton, and worsted yarn can be dyed by this system equally well, or if required slubbings can be dealt with effectively, and efficiently.

The dyeing machines in operation at Denton, possess capacities of 6 pounds up to 1,500 pounds of cotton or worsted yarn per batch, and the dyehouse, with as already mentioned a possible capacity of 10,000 pounds of dyed yarn a day occupies a floor space of 50 by 30 feet only.

Bleach Must Be Perfect.

If the results obtained in dyeing operations generally are to be the best, then it is of the first importance that the preliminary bleach of the cloth or yarn should be perfect, and nothing tends more to making this the case than when an exact control of circulation in the bleaching kiers can be obtained by the bleacher. This

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it is laid upon the bobbin is of less diameter, or occupies less space at the beginning than it does at the finish of a bobbin. This increase is gradual, but constant and is caused by the pressure of the presser condensing the strand. This pressure is greatest when the bobbin is small, and lightest at the finish or full bobbin.

To prove further what is stated above, put a fly frame up to speed, and when it is again stopped notice how slack ends here and there about the frame will become tighter as the speed diminishes.

The above is a practice carried on in all cotton mills, that is, when ends are found to run slack we put the frame on one-half speed, or nearly so, so as to let these slack ends pass the part on the bobbin having a smaller diameter.

All must admit that these are facts and that changing the speed of fly frames does affect the outlines of the cones.

As stated, in order to hold the same relationship of surface speed of the front roll and bobbin needle continual watchfulness and study of conditions, and this is at all times necessary.

However, some variations are inevitable, but eternal vigilance can assist greatly in maintaining that relation which theory and practice have shown to be the best.

The most important parts of fly frames are the cones and connections from the bottom cone to the bobbin gears, and here is where most of the bad work is made, much through carelessness, neglect, and not understanding the winding-on principle and functions of the flyers from the beginning to the end of the set.

Another defect that exists in many mills, and one that is responsible for much defective roving, is the draft between the first and second roll on the slubber. Of course a carder will tell you that he has a draft of only five on the slubbers, but most of this draft takes place between the first and second roll. You will in many mills to-day where the draft between the first and second roll of the slubber is almost equal to double the draft between the first and second roll on the drawing. Some may say that the drawing roll has much more to do on account of the number of slivers under its action at the one time, but this is a poor argument, because each may be said to be drawn separately between the first and second roll on the drawing the same as on the slubber. There is a difference and a great one, too, so much so that in some mills this excessive draft found between the first and second roll will give the layers of roving on the traverse the appearance that the carriage was dwelling in intervals.

Now to prove that the fly frame is the most imperfect machine in a cotton mill, and the cause of much defective roving, I would ask the reader of this journal to make the following test. Take off a slubber bobbin when nearly filled and size it, next, pull off two layers, or perhaps one layer will do after sizing. Run this same bobbin enough to obtain another sizing, and it will be found that the last sizing will be heaviest, which will prove without doubt, that the roving is made defective by the bobbin-lead system, aided by an imperfect machine.

The Dyeing of Textiles

By HERBERT A. CARTER, Manchester, England.

(Concluded from issue of 25th Oct., 1921).

In drying loose cotton slubbing, and silver which has been dyed with the aniline colours the materials, in order to spin well must after being dyed in good soft water, and then rinsed thoroughly, likewise with soft water, be dried with care. The drying is, indeed, of especial importance, and should be carried out neither too hot, nor too quickly, it is best to dry at a moderate temperature, and with a thorough circulation of air. After drying the material, especially, slubbing, it is an advantage to store it for some time in order that it may absorb moisture.

Suitable drying is of considerable importance also for the evenness and good exterior of dyed cops, and cheeses. After dyeing, and rinsing the adhering liquor is removed as thoroughly as possible by whizzing, suction, or pressure, the goods being then dried without delay with a copious supply of air, they may to good advantage be dried on a lattice frame studded with tinned nails. The method of drying yarn in cop or cheese form is of recent origin. At the present time saving of labour is of vital importance. By reducing handling to a minimum, or by cutting out a process great saving can be effected. There is therefore much to be said for dyeing yarn in cops or cheeses. The advantages that are gained by always having the yarn in the package form, entirely eliminating hanks, and warps are advantages not generally realized. The savings in winding charges will usually pay for the winding machine in less than a year, and the winding savings are only a fraction of the total savings.

Franklin Process for Yarn Dyeing.

In the new Franklin process for yarn dyeing which is attracting considerable attention in Lancashire, the yarn is wound in cheese form by one of the machines supplied by the Universal Winding Machine Coy., and is in parallel form. It is wound upon a Franklin tube. This metal spring tube is covered with a sock of knitted material. The cheeses from the winding machine are placed on a wooden spindle passing through the package cage. This cage is conveyed by suitable overhead transport devices to the dyeing kiers where the internal wooden spindle is removed, and the whole of the package of yarn within one cage threaded on to one of the vertical perforated spindles within the kier. The cage remains in the kier surrounding the packages during dyeing, and when the latter process is complete the cage, and the dyed packages can be expeditiously removed, and conveyed to the drier. From the winding machine to the drier there is no direct handling of the cheeses.

In the dyeing process the usual method of reverse flow of the dye liquor first through the perforated spindle, and yarn, and then through the yarn, and perforated spindle is adopted. When the yarn packages are placed in position on the spindle they are compressed, the elasticity of the Franklin tube readily

Various Causes of Snarls.

When weaving heavily sized warps that are excessively dried it has often been observed that the weft is more liable to snarl than if the warps were not dried to excess.

Broken warp ends dangling in the shed is another cause of snarls being formed in some cases.

Some of the causes of snarls given show up the fault in cloth at no particular point, but other causes have been given to show snarls at comparatively equal distances from the cloth selvages.

CAUSE OF DEFECTIVE ROVING.

By Wm. SHAW, Unionville, Conn.

(Continued from issue of 25th Oct., 1921).

Flyers should be positioned so that the presser rods in each row of spindles will be nearest the roller beam when the frame is stopped. In this way the tender can piece ends on both rows of flyers more quickly and easily. If flyers are positioned as in the first case, if the frame be one of a narrow gauge, the presser rods will often strike together and in some cases be detached and fall among other revolving flyers, thus not only injuring those that have come in contact, but also others.

Flyers are balanced separately, and their position on the spindles does not affect the running of the spindle or frame, or cause any undue vibration.

When spindles and rail are found vibrating the trouble is in the frame being out of alignment.

If the reader has charge of fly frames, he will find the above points very valuable in making a more even roving, because the following proofs should make it clear enough that what is said above will effect the tension and make either slack ends or strained roving. The first proof should be made in case of the flyer, by studying the principles of them. When this is done, the reader will arrive at the conclusion that the air surface of the bobbin with some flyers owing to the increasing diameter of the bobbin gradually working the rents do affect the pressure of the paddle on the surpresser rod towards the rear of the hollow leg of the flyer, thus bringing the presser rod more out of the influence of air currents which increases the pressure of the paddle on the surface of the bobbin.

Cause of Strained Roving.

Next, to prove how a dry or dirty roll will cause strained roving, remove a couple of layers from a bobbin, and then piece up again and start the frame, and when the end begins to run slack (as it surely will owing to the bobbin in question having a smaller diameter), just press the thumb slightly upon the top leather roll of the end in question and it will be found possible to run this bobbin of a different diameter. Let the reader make the above test, and if the frame on which the test is made be equipped with solid top leather rolls, let him ask himself why the end or ends drawn by the same front roll do not break, except of course in case the pressure on the roll is too great and causes too much retardation. Does not the above prove, that ends can be strained without breaking on our latest fly frames?

Every practical man will at once see the writer's point, that is, you can run a bobbin a couple of layers smaller by pressing slightly on the top roll without breaking the end or ends drawn by this same roll. The above is often done by speeder tenders in every mill. But let us stop and consider what we are letting go on in our mills when we allow this practice to continue. No one can deny by the above practice that an end will run even if the top roll does retard; there can be no argument upon that point. So, then, every time that a speeder tender is allowed to retard the top roll to run a smaller diameter bobbin until the frame has run a layer or two and the diameter of the bobbin has become more equalized to the rest of the frame, the ends operated by the same roll are surely strained.

What is the result? The ends referred to above from either holding or pressing the thumb against the front roll, or from dry or dirty rolls, are the ends that are causing the most trouble in later processes.

Let there be no misunderstanding about what is meant. When one presses the thumb against front top roll to increase the tension on the end running slack, it strains the end or ends operated by this same roll. If the second roll is dry the end will be uneven in places and cause the same amount of breakage at the warper and loom.

When the front rolls are dirty or dry the roll does not have the freedom to draw the fibers from the second roll regularly, and the strand is shortened and made much heavier, and the diameter of the bobbin is reduced owing to the pull. A bobbin in the above state will run and make heavy work. In some cases it will cause hard ends in the spinning room that will in turn whip down one or a dozen more. But is it not strange, when one stops to think of it, how it is that we find on our warpers today ends continuously breaking?

In fact, it is very seldom one will find all warpers running at the same time in any mill fine or coarse. Why those weak ends? Why give so much attention to only the front rolls when we know that a dry second top roll is more injurious to either warping or weaving than a dry front roll? Why allow a speeder tender to hold her or his thumb on a front roll to remedy one bobbin on a speeder instead of breaking it back, and strain other ends that will necessitate the stopping of the warpers and looms hundreds of times. No practical mill man will deny that in our mills the yarn varies a great deal more than it should, and in most cases it will be found that the trouble is on the fly frame. To have the surface speed of the front roll and bobbin equal at all times during the building of a set of roving is a very difficult thing to do. To prove the above, size a full roving and then size the same roving when nearly empty, and it will be found to be heavier at the finish of the bobbin. Why is this so? Why are not the coils of roving the same weight throughout the set? Such a condition cannot be laid to the unevenness of the roving from ordinary causes as it is just as liable to be light at the beginning of the set. When a few ends break in the second row of flyers, we know the tension is too tight. The ends break on the back row, because the distance from the surface speed of the front roll and bobbin needs con- the back row than on the front row, consequently the strand on the front row will stand more stretching without breaking. Thus the strand in the front row is lengthened, and this reduces the turns per inch. That is why more twist is attained in the back row.

Fly Frames Imperfect.

Another point that proves our up-to-date fly frames imperfect. Still another reason is that the strand as

FAULTS IN CLOTH: SNARLS AND KINKS.

(By Practical Managers.) (All rights reserved).

(Concluded from issue of 8th Nov., 1921.)

Voile cloths are generally worn from 2/90's to 2/110's warp and weft of a hard twisted nature, and any loom overlooker experienced in voile cloth weaving is well aware that one of the chief difficulties is the prevention of the weft from snarling. The weaving of crepe yarn is another instance of the same difficulty having to be dealt with. The methods at some mills weaving voile cloths from 2/110's warp and weft, using 110's reed (Stockport counts) one end per dent, are: (1) to attach fur on each inner side of the shuttle for the weft to rest therein, it being desirable that the hair or pile of the fur be long enough to impart sufficient tension on the weft as it is unwound from the cop. (2) A length of elastic is fixed in a stretched condition under the shuttle peg in order that the full cop placed on the shuttle peg will touch the elastic and exercise enough drag on the weft during the unwinding which in all looms, is of an intermittent character.

Neppy Warps.

The warp yarn as received at the loom is occasionally neppy—a fault denoting that there are small pinhead clusters of fibres attached to the surface of the yarn. The interlacing of the weft yarn with the neppy warp yarn is very liable to be accompanied by the weft forming into snarls where some of the neps appear by reason of the neps catching, interfering, or forcing the weft yarn from its proper course, with the result that small weft loops make their appearance on the surface of the cloth. The best means of dealing with such cases is to make sure that the sheds are well made, correct in size and position, tension the weft by inserting one of the mediums previously referred to in the shuttle, and increase the tension of the warp a little

Worn Pickers.

For the pickers to act properly it is essential that neither the horizontal spindle holes nor the spindle tip recess be badly worn. If excessive wear is evident at either of these places, the receiving of the shuttle in the box and its ejection therefrom will be affected with the likelihood of the weft being nipped.

Looms Weaving Narrow Cloth.

It often happens that looms are weaving cloth narrower than they are capable of, hence the difficulty of dealing with the length of weft from the selvage to the shuttle eye is intensified, especially when the shuttle is in the off-side box. The doubling of the weft on its track when the shuttle is travelling from the off-side box in the case under consideration very easily causes the weft to hang slack in the shed and appear in a ridgy manner on the surface of the cloth when beaten up by the reed. The difficulty may be overcome by adopting one of the tensioning mediums already mentioned, or a piece of plain cloth, or preferably swansdown cloth, may be attached on the race or shuttle board at each side of the loom from the cloth selvage, so that the weft will be tensioned a little when the shuttle is moving from one side of the loom to the other. The weaving of cloth much narrower than the reed-space will accommodate is also accompanied by the greater likelihood of that objectionable defect "bad selvages" being in evidence. This fault is, of course, aggravated if the weft is more than ordinarily prone to snarl between the shuttle eye and the cloth selvage. Selvages with small weft loops projecting, commonly termed "fringed selvages" are very unsightly and the cloth is depreciated in value.

Snarls at the Northrop Loom.

It must be clearly understood that the Northrop loom is little or no more likely to cause snarls than any other make of loom used in the cotton trade, but it so happens that the snarling of weft is one of the worst difficulties to be dealt with by the Northrop loom overlooker, just as on other looms, and this paragraph contains information concerning Northrop in particular. At the first mill a certain Northrop loom gave more trouble by snarling the weft than any other loom in the mill, but still this particular loom did not appear any different compared with other looms weaving weft spun by the same ring frame on wood bobbins. One point might be noted, however, i.e., the weft is used rather "red-hot" from the ring frame. The overlooker first, and rightly so, tried to remedy the trouble of snarls by using the weakest practicable pick at both sides of the loom. Investigation was made that the "lift" was quite in order. Thirdly, each inner surface of the shuttle was lined with sheepskin in order to make contact with the weft and tension same on its withdrawal over the nose of the bobbin. Fourthly, two small holes were drilled through the box front and a strip of roller leather threaded through. The total effect of the foregoing attempts to remedy the defect was not entirely successful. The next procedure was to loosen the fittings from the jaw end of the shuttle and cut away a little of the wood so that the bobbin will have a slightly lower position in the shuttle and thereby increase the tension on withdrawing the weft over the nose of the bobbin owing to the nose being slightly lower than the shuttle eye. This alteration, together with using two new pieces of sheepskin in the shuttle, were successful in eliminating the defect. In another mill the Northrop loom overlookers were sorely harassed by hard twisted weft repeatedly breaking. Eventually, it was discovered that the constant friction of the weft in the brass eye had cut a slight, but quite deep enough, groove so that whenever the least obstruction came along with the weft, such as a bit of projecting seed, or a slub, or even a thin place, the groove referred to was very effective in breaking the weft. The same trouble will transpire, of course, when shuttle eyes are made of certain metals other than brass. On ordinary looms, of course, glazed earthenware is used for the shuttle eye. In all cases, if a shuttle eye is too large the weft will be drawn through more freely than otherwise and with a correspondingly greater likelihood of snarls being in evidence. A point that should be noted regarding the use of sheepskin is, that it only gives the best results up to a certain point because if too much sheepskin is fixed inside the shuttle the weft will be tensioned to that extent that snarls are eliminated only at the expense of other faults making their appearance. As an alternative to the use of sheepskin a few bristles, say, 6 or 7, may be fixed above and below the bobbin tip so that the weft will be held down in the shuttle instead of flying over the side and becoming trapped. In such cases where trouble has arisen by hard twisted weft cutting a groove in the brass eye of the Northrop shuttle, the fixing of cast-iron anti-friction pieces in the shuttle eye has proved its worth in entirely overcoming the grooving referred to. The breakage of weft by such a groove or nick is somewhat elusive because it would seem to have been trapped.

A.—Sometimes as few as six (6) processes.

Q.—How many doublings in a very coarse yarn mill?
A.—24 doublings.

Q.—How much floor space is used by some of our larger plants.
A.—Over 50 to 100 acres.

Q.—How much cotton do some of our larger mills consume?
A.—Over 1000 bales per day.

Q.—How many acres of cotton farming land will it require to keep a mill in operation which consumes 1000 bales per day?
A.—300,000 acres of intensive cotton farming.

Q.—How fast are some of our large mills producing cloth?
A.—Faster than the swiftest express trains travel.

Q.—What is the yardage production of some of our larger plants.
A.—Over 1,000,000 yards per week.

Q.—How many miles long is 1,000,000 yards of cloth?
A.—Over 500 miles long.

Q.—How much surface can be covered with 1,000,000 yards of cloth?
A.—If 1,000,000 yards of cloth is one (1) yard wide it will equal 9,000,000 sq. ft. or about 400 acres of surface.

Q.—How many cotton mills are there in Fall River?
A. Over 100.

Q.—Where was cotton spun and woven first under one roof in the U.S.?
A.—In Waltham, Mass.

Q.—Where was the first cotton mill in the U.S.?
A.—Cotton was first manufactured with yarns by factory and machinery methods in Rawley, Mass., in the year 1643, and into cloth in 1648. And very soon afterwards the industry started in Bridgewater, Mass., Pawtucket, R. I., and Philadelphia, Pa. and Beverly, Mass.

Q.—Who invented the first fly shuttle?
A.—John Kay.

Q.—Who invented the first "spinning Jenny"?
A.—James Hargraves.

Q.—Who invented the drawing roll process?
A.—Richard Arkwright.

Q.—What has cotton closely often imitated and often been passed for?
A.—For linen, wool and silk.

Q.—What is the most used fibre in the world?
A. The Cotton Fibre.

NATIONAL ANILINE AND CHEMICAL CO.

The Concern Has Issued a New Color Card Showing Dyes For Cotton.

The new color card showing dyes for cotton, issued by the National Aniline & Chemical Company, Inc., marks a new departure in this character of service to customers. It embodies several features which are entirely novel and which cannot fail to be of the greatest possible assistance to users of dyes, and which will be received with great appreciation by all consuming interests.

For the first time in the history of American color card making, there has been produced a table of dyeings and tabulations explaining the fastness properties of each one of the dyes embodied in this sample-card. These tabulations explain such conditions as fastness to washing, fastness to light, fastness to acid, fastness to alkali, fastness to hot pressing, hydrosulphite discharge properties, and instead of being simply indexed and indicated by numerals, the information is given in good plain language, so that it may be easily understood and utilized.

General directions for the use of these dyes for cotton are given, based on carefully tried out tests and proved experimentation, and in addition, there has been grouped under several headings, those dyes which are best adapted to certain purposes. This, in itself, is another novelty in point of arrangement. For instance, on page 15 of this new card, a list is given comprising "dyes for best fastness to washing," and in this list will be found some 40 or more dyes that may be depended upon in connection with this test.

Under similar headings are also collected lists of other dyes as of best fastness to light, best fastness to acid, best fastness to alkali, best fastness to hot pressing, dyes most suitable for discharge with hydrosulphite, dyes most suitable for dyeing in a cool or lukewarm bath, and finally, those which are recommended for combination shades and subsequent shading, as well as for machine dyeing.

In all, in this interesting color card, which is in effect a handy manual for the use of the dyer, no less than 105 dyes are shown, represented by 210 dyeings, two different strengths of each dye being given. The general make-up and typography of the card has been carefully considered, not only for its artistic qualities, but for its convenience as a means of ready reference, and there is no doubt that it will be regarded as one of the best and most up-to-date steps taken by the American dyestuff industry.

U. S. RING TRAVELER COMPANY DISTRIBUTE SOUVENIR PAPER WEIGHT.

The U. S. Ring Traveler Company, 159 Aborn Street, Providence, R.I., have sent to a number of their friends in the trade a very attractive gold plated ring traveler as a souvenir paper weight. The smallest traveler weighs 165 grains. The largest weighs 1,100 grains and is used on rings 2 in. deep and 7¼ in. diameter, which is the largest ever made. In order to make this traveler the U. S. Ring Traveler Company has built the largest machine ever made for this work, which is in operation at their Providence plant.

Questions and Answers About Cotton and Its Manufacture

By H. D. MARTIN. (Concluded from last week).

Q.—How much cotton is produced per acre?
A.—One bale of cotton per acre is considered good cotton farming.

Q.—In an ordinary fine goods cotton mill; how many doublings are in force to produce a single strand of fine yarn?
A.—Over 5,000,000 doublings.

Q.—How many doublings when made with six (6) cord sewing thread.
A.—Nearly 40,000,000 doublings.

Q.—How many processes are there in a fine white goods cotton mill?
A.—No less than 22 processes.

Q.—In a fine goods mill, making plain white work, how many times will the product of the mill have to be handled in order to complete all of the processes from bale to shipping case?
A.—Over 60 times. That is: a mill producing 20,000 lbs per week would handle this product, at the least, 60 times over or 1,200,000 lbs. per week in order to complete the finished product of the 20,000 lbs.

Q.—How many motions of the human hands are required to handle the above product?
A.—Counting 10 motions per operation for the human hands to perform one service at any one point or casuality, and if each hand or operative averages one service per minute, in a mill of 50,000 spindles, employing 500 hands, it will require 5000 motions per minute 300,000 motions per hour, 3,000,000 per day of ten hours each or over 15,000,000 motions per week, to handle the product.

Q.—On number 60s yarn how many yards of yarn would be spun per lb of cotton?
A.—50,400 yds., or very nearly 30 miles of thread.

Q.—On number 100s yarn how long would the yarn be if wound on a spool weighing one-half of a pound?
A.—Over 40 miles long.

Q.—On number 60s yarn, with a skein of same made on a 54″ reel to weigh 2 ozs., how many yards, and how many strands will it contain?
A.—6300 yards and 4200 strands.

Q.—What is the diameter of yarn No. 60?
A.—1-224 of an inch in diameter.

Q.—What is the common speed of spindles on spinning frames in a fine goods mill?
A.—10,000 revolutions per min.

Q.—How fast will the ring travellers travel on the rings of a spinning frame in a fine goods mill?
A.—About one mile per minute, or at about the same speed as that of an express train.

Q.—In a fine goods mill of say 50,000 spindles and looms to match, how much rope, belting, and piping may be used?
A.—If it is a rope driven mill about 6,000 feet, and 40,000 feet of belting—depending, of course upon the construction. Also 40,000 feet of piping.

Q.—In the same mill how many wire points would there be per square foot on the card clothing of the card cylinder?
A.—If the card cylinder is 40″ wide and 50¾″ in diameter over the wire, and if number 110 wire (English standard gauge or 34 American gauge) is used on the card clothing, there will be 79,200 wire points per square foot of surface or in round numbers 80,000 and which will be easier to remember.

Q.—What is the relation of the above card clothing to the carding of the cotton put through the card?
A.—On fine work, if a card is putting through 300 lbs. per week or 30 lbs. per hour there will be about 8 wire points to take care of each fibre put through the card.

Q.—How is the above relationship determined?
A.—Example No. 110 wire equals 79,200 wire points per sq. feet. If the card cylinder is 50¾″×40″, the carding surface will be equal to 44.306/1000 sq. ft. of working surface. On the entire surface of the card there will be 44.306×79200=3,509,035 wire points on the entire surface of the card cylinder. As the cylinder of the card revolves 165 revolutions per minute there will be as many wire points passing a given point per min. as that which equals the speed multiplied by the wire points per sq. ft. as follows: 165×3,509.035—578,990,775 wire points. If the card is putting through 30 lbs. per hour, this will equal ½ lb. per minute. As there are 140,000,000 fibres in one lb. of cotton, in one-half pound there will be 70,000,000 fibre passing through per min. Now if we divide the wire points by the fibres passing through, during the same time that 578,990,775 wire points are working, as follows: 578,990,775÷70,000,000=8-27/100 wire points per fibre passing through. That is each fibre stands the chance of being combed or carded eight times. So the relation of the carding surface to the cotton passing through the card is 8 to 1 of the fibres passing through. The fraction is eliminated to allow for the edges of the cylinder.

Q.—How many processes are there in a colored goods mill?
A.—Over 30 processes.

Q.—How many processes are there in a very coarse yarn mill?

giving protection and comfort for the operator, yet unobstructed view of his work.

The slewing motion is accomplished through a system of spur and bevel gears working into the rack on the carbody. The direction of rotation is controlled by two friction clutches of very substantial design and is entirely INDEPENDENT OF ALL OTHER MOTIONS. A foot brake is provided to prevent involuntary rotation of the crane.

Raising the boom is accomplished through a friction drum on the main drum shaft. The motion is positive in its action, and is easily controlled by the operator by means of a single hand lever operating both a friction clutch to hoist the boom and a brake which lowers and holds the boom. Full rated loads may be raised or lowered by this mechanism with ease and safety.

The steering of the car while propelling is accurately controlled by the operator from his position in the revolving upper-works, by manipulation of the friction clutches and brakes controlling the motion of each tractor belt, while boom is swung at any angle with the car. By means of these clutches and brakes either belt can be readily and instantly disconnected from the motor while the other belt continues travelling at a normal rate of speed. The disconnected belt can be held stationary by applying the brake, can be allowed to coast with the brake and clutch both disengaged or the clutch can be allowed to slip, thus allowing the operator to turn as sharp or as wide a corner as he may select. Crane will turn within a radius of approximately its own width, depending somewhat on the nature of the ground. All the clutches, brakes and lever mechanism for steering are located in the revolving upper-works with separate and independent driving mechanism for each tractor belt. This arrangement is simpler and much more accessible than when a portion or all of these clutches, brakes and lever mechanism is located below the car-body.

The propelling and steering mechanism is a new and exclusive feature of the "INDUSTRIAL" CRAWLING TRACTOR CRANE, and is fully protected with patents applied for. It enables the operator to propel and steer the crane, INDEPENDENTLY OF ALL OTHER MOTIONS, with the greatest possible ease and accuracy.

The propelling mechanism is especially powerful in the "INDUSTRIAL" CRAWLING TRACTOR CRANE, allowing it to travel up steep grades and over heavy going. The large tractor belts distribute its weight so it travels with equal facility over city pavements, ordinary dirt roads and industrial storage yards. These belts allow the crane to readily pass over railroad tracks and larger obstructions. Of especial convenience to contractors, is this crane's ability to propel itself up an inclined skidway onto a flat car, where it may be transported without dismantling further than to remove the boom and the projecting muffler.

The overall height of the crane with muffler removed is 12 ft. 6 in. The width over tractor belts is 9 ft. 9 1-8 in. The rear end will slew within a circle of 9 ft. 6 in. radius from the centre of revolution.

The surprisingly low cost of owning and operating a crane of this type affords the smaller industrial institutions an opportunity to handle bulky materials speedily, safely and economically.

EDUCATION IN THE MILLS.

Day and Night Classes Held in N. C. Factories.

A report just issued by the State Department of Education in North Carolina, says that classes are held each day or night in 163 mills and factories in the State to prepare industrial workers to perform the better paying tasks. These classes include mill arithmetic, carding, chemistry, machine operation, etc. The number of trade and industrial classes of this kind in all the Southern States, follows: Arkansas 18, Florida 56, Georgia 77, Louisiana 4, Mississippi 6, North Carolina 163, South Carolina 73, Tennessee 67, Texas 108, Virginia 38, Oklahoma 30.

Type BC "Industrial" Crawling Tractor Crane.

The hosiery trade is enjoying some brisk business and blanket makers are also keeping their machinery fully occupied. These two sections of industry have lately had a spell favorable to employers and workers, due no doubt to the seasonable weather.

In the heavy woollen districts there is an optimistic feeling prevailing. High-class pure wool goods are finding a good outlet in the States and Canadians are also coming into the market for new business.

Many writers in the newspapers here still maintain that the price of clothing is still too high and they contend that if there was an abatement a revival in business would follow. However, something will have to be done as the experience of 1921 will take some enduring, if repeated, in 1922.

Wool.

The irregularities of prices in the wool markets during 1921 proved a great stumbling block to mill owners who were trying to get their export trade going in any shape or form. We have closed the November-December sales in London with a lower and safer basis attained. Support was chiefly obtained from the home trade, but France and Germany also bought fair quantities, while the Emergency Bill of the States, which is considered an embargo on wool here, stinted American trade. The improvement in these recent London sales will certainly produce a better tone, prices on an average being 10 p.c. lower. Messrs. Kreglinger & Fernan give a comparison in prices which are worth quoting—all quotations are given first class, clean London, without oil (prices are cents per lb.) :—

	1914 July	1921 Nov.	1921 Dec.
Combing			
70's superior fleeces	64	90	92
64's—65's good medium fleeces	61	80	80
60's—64's	60	72	72
64's good pieces	56	70	72
60's good pieces	54	64	64
58's—60's good medium fleeces	58	62	62
56's fine crossbred fleeces	52	44	46
50's—56's fine crossbred fleeces	47	40	40
46's—50's crossbred fleeces	36	28	30
46's crossbred fleeces	34	22	24
44's crossbred fleeces	32	18	20
36's—40's crossbred fleeces	21	..	16
Carbonising.			
60—64's good pieces	52	58	60
60—64's pieces and bellies	50	54	56
64's average locks	40	40	46
64's average lambs	—	48	52

In home grown wool there is some brisk dealing and the following prices are being charged for the past season's supply by farmers as follows:—Cheviots ewe 422 cents per 24 lb., against 1992 cents last year; cheviot hogg 504 cents per 24 lb., against 2100 cents last year; halfbred ewe and wedder wool 372 cents per 24 lb., against 1644 cents; halfbred hogg wool 432 cents, against 1652 cents; black-faced wool (unwashed) 192 cents, against 564 cents.

More Tops for Canada.

The figures dealing with 1921 trade will not be available until the middle of January. They will, however, make poor reading. For January to November period wool, waste, noils and tops, are the only exports showing an increase. Canada took in tops November last 454,500 lbs., compared with 356,600 lbs. in October, and 225,900 lbs. in Sept. Topmaking has not been a pleasant occupation in 1921, but many things warrant the assumption that topmakers are over the worst features.

GENERAL PURPOSE CRAWLING TRACTOR CRANE.

An Account of the Development of This Product of Industrial Works, Bay City, Michigan.

The type BC "Industrial" Crawling Tractor Crane, illustrated in the accompanying photograph, manufactured by the Industrial Works, Bay City, Michigan, has been developed to meet the need for a full-revolving tractor crane which can be operated independently of rails. The crane is built in two types—the type BC, with a capacity of 20,000 pounds at 12 ft. radius, equipped with continuous crawling tractor belts ft. radius, equipped with four broad gauge tractor wheels.

-the type BT, with a capacity of 18,000 pounds at 10

These cranes, backed by half a century of crane-building success, are pre-eminently adapted to the needs of road contractors, coal dealers, gravel, sand and stone producers, foundries, lumber yards, railroad storage and reclamation yards and moderate-size manufacturing plants. The capacity and speed of these cranes make them ideally suited for doing such jobs as moving coal, sands, gravel, etc., and for excavating duty. Within the limits of their capacity they will serve with the same efficiency as the railroad crane.

The maximum utilization of yard storage space is realized with the use of these cranes because their field of usefulness is not limited by railroad tracks, as is the case with the railroad crane. Having exceptionally large capacities in ordinary lifting they prove a valuable adjunct in the many erection jobs which are inaccessible to the railroad crane. They can be equipped to handle a hook and block, grab bucket, drag scraper bucket, wood grapple, electric lifting magnet, shovel dipper and pile driver leads with drop hammer.

Operation is by means of an internal combustion engine which has the advantage of being always ready for immediate use. When not in operation no fuel is consumed and it is not necessary, as often with a steam operated machine, to have a licensed engineer as operator.

The utmost care has been used to combine the necessary strength with the light weight essential to a tractor crane and convenience in operation and maintenance have been provided to the highest possible degree. Realizing the vital importance of ease of operation in getting the most work out of locomotive cranes study has been made of the requirements of the operator and everything arranged with a view to making the operation and maintenance of the crane as easy and convenient as possible.

The crane is equipped with a thirty-foot boom, made up of two channels strongly latticed with angles and tie plates. Also, if desired, crane can be equipped with 35 ft. or 40 ft. boom. With straight boom not to exceed 30 ft., the crane standing on firm level ground, the following loads may be safely hoisted and slewed in a full circle :—

20,000 pounds at 12 ft.
15,000 pounds at 15 ft.
10,000 pounds at 20 ft.

Can be Handled on Single Line.

7,500 pounds at 20 ft.
6,000 pounds at 30 ft.

A steel cab, neatly and substantially constructed, is furnished. This has necessary doors and windows

British Mills will Never Forget 1921

End of An Inglorious Year—Decreased Trade—Efforts Being Made to Develop Exports—Delegation to Canada to Study Markets—Canadians Buying More Tops—Wool Markets Firm—The Outlook in General.

(Special from Our London Correspondent).

There is an old saying that every cloud has a silver lining. The dark pall that is at present overhanging the British woollen, worsted, cotton, and other industries, will require "some lifting," as the American says, and twelve months have been exhausted patiently waiting for the "silver lining" to again re-appear on the edge of the monster cloud of depression that fell on British mills after the boomtime of 1919 and early in 1920. All the ingenuity, astuteness, scientific, and other methods failed during 1921 to remove the enigmas; means were adopted and introduced which were totally undreamt of three years ago to bring about a revival of trade, no matter how small; and now as one looks round—in a country "victorious" in the world's greatest war—we see, as Lord Derby stated to a body of influential Statesmen from France the other day, "Lancashire the devastated area of the British Empire," while our former enemies are in the middle of a boom, with little or no employment. "I live midway between Liverpool and Manchester," said Lord Derby, "in the midst of the most thickly populated industrial area in the world and every day I see men who fought by the side of France seeking for work and returning unsuccessful at night to their hunger-stricken wives and children." That was the position, in a sentence, in the cotton, woollen, hosiery, and worsted areas during 1921—a year with a black history—and it is the position as a new year dawns.

"A Terrible Year."

In the course of a conversation with a gentleman who is head of a number of mills he remarked that the past year was a terrible one to look back on for trade. It was hoped, he added, that mill owners would never experience the like of it again. But strange to say mill men are not despondent; they are trusting to the future and in the belief that every cloud has a silver lining. After the Franco-German war was over there was a period of depression and many labor leaders refer to it to-day; but the depression nowadays has never been equalled in the world's industrial history. Indeed, things are in such a deplorable condition that any new movement of political or international importance is looked to as probably bringing a ray of sunshine through the dark pall overhanging the mills. The Irish peace question is reckoned to give a fillip to business and will have a world-wide influence on commerce; the pact between U. S. A., Japan, England, and France, it is said, embodies peace, which will carry in its trail the restoration of trade in which cotton and woollens will be the first to respond. But, on the other hand, there remains the collapse in foreign exchanges which have hit the British industries so adversely during the past year. Since the beginning of 1921 all efforts have failed to stabilize them and until they become normal again no one need look for any expansion of trade in Europe.

Studying Overseas Markets.

The question may be asked: Then, if your mills in England have been so short of orders in 1921, how have youlived, and what have you been doing throughout the year? Well, mill owners have lived from hand-to-mouth, raising new capital in the hope of better days, and eking an existence out of what orders fell into their hands. Short-time working in the mills was the order for the workers and the Government helped the unemployed at the expense of the taxpayers. In the case of syndicates or combines considerable attention was devoted to centralization and unification of control, mill machinery was overhauled, wasted energy conserved, economies effected in production, and last but not least the markets overseas were visited and studied with an eye to future catering and future business. The visitations to markets in the Dominions and Colonies and other places always result in enquiries, if not actual business, and probably by the time these lines appear in the "Canadian Textile Journal" a delegation of 20 manufacturers of Scottish tweeds will have landed in New York, en route for Canada, for a prolonged tour investigating market conditions, as well as bearing the official message of an important British industry to their confreres in the Dominion and States. They are out for business and I understand it is the largest delegation that has ever crossed the Atlantic seeking information on manufacturing conditions and market conditions. Canadians may rest assured they are not crossing for pleasure, or for health purposes. This delegation is crossing to see what way they can combat the products of Canadian mills; it is out to find the weak points for the purposes of competition. Scottish tweed manufacturers have not had a rosy time in 1921 and they are making a determined effort in 1922 to develop the resources they possess.

Present Conditions.

As the old year closes, trade in the cotton industry is none too brisk. Short-time is still being worked in the mills in many places. Some manufacturers report that their machinery is running full time, except for the sections engaged on specialties for which there is no demand. In the Huddersfield woollen centre, tweed manufacturers say that there is a slight sign of improvement. Fine worsted makers are despondent. A good demand is reported for plain serges for men's wear and all orders are for prompt delivery. Flannel mills are running full time in various parts of the country and the feeling prevails that prices have reached a rock-bottom level, a factor which has stimulated business. Enquiries from overseas markets are being received, but in nearly all cases the offers are not acceptable to the mill owners. Here we have an indication that the buying powers abroad are keeping trade down. It would require a seller to part with flannel below cost price to meet the wishes of some buyers abroad.

the export figures of the past few months prove a gradual and very encouraging increase in buying.

Then "it is up to the manufacturers of linens to do their share towards reviving business by reducing their prices slowly."

How is this problem to be accomplished?

This Solon does not add to its solution.

Reduction Not Quite Possible.

Linen occupies quite a different position to iron, sugar and most other commodities in the scale of our wants and possibilities. At the outset there are no great supplies of flax to draw from, and its price cannot become lower. Yea, rather, it is tending somewhat higher since new flax rates at 22s. 6d. per stone, as against around 16s. per stone for old flax. Moreover, while wages may have declined somewhat they are still from 40 to 60 per cent. above the pre-war rates. In addition, rates, rents and other overhead costs have increased vastly. Especially, too, fine or high grade yarns being very scarce have tended to become dearer. Indeed, all aspects considered, there is an almost certainty that high as prices of linens now are they must advance still more within the near future.

Linen Stocks Not Immense.

Can the final assertion of the third wonderful statement attributed to the buyer of the celebrated New York dry goods concern be submitted to scrutiny. He asserts that "there are plenty of stocks of linen available in the world, even if demand should suddenly become very much greater." As a certain Victorian English poet declaimed: "My imagination boggles!" Surely here is logic let loose. Raw supplies, in the shape of good flax, are extremely scarce and it must be remembered that flax crops do not come up every months, as can be summoned by the utterance of some magic phrase like "Open Sesame." Such scanty supplies as are available now must provide until a year hence.

Spinners, even at present, find much difficulty in obtaining good qualities of flax for the best yarns, and neither the spinners nor the weavers (who manufacture the yarns into cloth) will make yarns and fabrics respectively for stock hoarding.

Financial conditions at present would condemn the spinning or manufacturing concern who did so qualifying for bankruptcy. Hence stocks of linens available at present are of very moderate, if not altogether slender dimensions. Yea, the fact that much of present day orders for linen goods are for a multitude of small quantities to be delivered "by immediate return," and such hand-to-mouth dealing is not indicative of large stocks, is it?

As a matter of fact, while no really meticulously acurate data is possible, it is estimated that an increase of buying of between 30 to 40 per cent. would not alone exhaust all the stocks of linen available in the world, but seriously exhaust in addition all raw supplies of flax.

By the mistakes of ourselves and others we learn much, and at anyrate these far-fetched statements in the American Textile Journal have provided pabulum for what I hope may be of benefit to readers in general.

INDUSTRIAL WORKS FREE CATALOGUE.

Industrial Works, Bay City, Michigan, is distributing free upon request Catalogue No. 113, illustrating and describing the Type BC "INDUSTRIAL" CRAWLING TRACTOR CRANE of 20,000 pounds capacity.

This crane is pre-eminently adapted to the needs of road contractors, lumber and coal dealers, gravel, sand and stone producers, foundries, railroad reclamation and storage yards, and moderate-size manufacturing plants.

MR. BAHAN OF MASURY-YOUNG COMPANY MAKING CANADIAN TRIP.

Mr. Bahan of Masury-Young Company, 198 Milk Street, Boston, manufacturers of Scotch Wool Oil, which has been on the market since 1857, is making a trip through to the different textile centres in Canada introducing to the trade the various products of this well-known company.

UNIVERSAL WINDING CO.

The Unique Position of This Company in the Textile World.

The Universal Winding Company occupies a very unique position in the textile industry, being the only company in the world which has devoted its attention exclusively to the production of all types of winding machines for different mill purposes and for winding material for shipment to the market. Starting with fundamental patents on what is known all over the world as "Universal Winding" they have produced a wide variety of machines, and their exhibit showed nineteen distinct types for winding yarn, cord, twine, rope, wire, etc., in all dimensions from ½ in. diameter package weighing a fraction of an ounce to 16 in. diameter package weighing approximately 75 lbs. Several

View of Universal Winding Co.'s exhibit at International Textile Exhibition recently held at Boston.

entirely new types of machines were exhibited at the Textile Exposition, recently held in Boston, which show a marked improvement in machine construction and which were built upon the general plan of the Universal Winding Company, which is that of construction of machines for economical handling, elimination of waste, the saving of floor space and power and also designed for simplicity in the handling which permits of large operative production. Their display was one of the most prominent among the exhibits and was crowded with textile men during the entire time of the exhibition. W. J. Westaway Co., Ltd., are Canadian representatives for Universal Winding Co., whose executive offices are located at 95 South St., Boston, Mass.

addition to a reducing agent, and suitable color capable of being fixed by a mordant.

In view of the fact that all mordant colors are not suitable for this class of work, it is necessary to limit oneself to certain members of the Ultra series.

If, for example, it be desired to discharge on a paranitraniline red ground, a pattern consisting of a white spot and a bright dark blue blotch, it will be necessary to print a white discharge, containing Hydrosulphite NF (and anthraquinone) and a blue discharge containing Ultraviolet and acetate of chrome in addition to the Hydrosulphite NF.

If an Aniline Black ground be substituted for the above "Para-red," as in the well-known Prud'homme style, the discharge colors must be modified. In this case, then, the white is composed of the sulphites of lime and soda, and the blue of Ultraviolet reduced by Hydrosulphite NF, acetate of soda, acetate of chrome, and a certain quantity of formaldehyde to avoid insufficient fixation of the Ultra color on steaming.

These different examples illustrate the case with which Ultra colors may be associated in combined styles with colors of any other constitution, provided these latter are sufficiently resistant to the energetic reducing action of the discharging agent employed. In this connection we may cite: many of the Basic group, the Sulphur group, and the Vat dyes, all of which are more or less in general use for this purpose.

We include under this last heading (d) the following styles:—

(1) On Direct and Azo color ground: White and color discharges (Ultra group).

(2) Prud'homme black grounds: White and color reserves (Ultra and Basic groups).

(3) On Direct color, Azo color and Prud'homme black grounds: White and color discharges (Ultra group, Vat group, Basic group, and Sulphur group).

LINEN PRICES—CAN THEY DECLINE?

By ALFRED S. MOORE, M. Text. Inst.).

Readers of the old fashioned yet ever popular novelist, Charles Dickens, may recall how one of his characters, the celebrated actor-dramatist was so ingenious as to create a drama centred around such realistic yet utilarian subjects as a pump and real water. Then, after having achieved a success, and having provided his own fulsome dramatic criticism to the local press, he was wont, while pointing out the paragraph to the members of his company, to strike a dramatic attitude and assuming innocence blended with feigned amazement, inquire: "How do these things get into the papers?"

In like fashion Belfast linen manufacturers must wonder, but with real astonishment, "How do these things get into the papers?" when they see what cannot be described as otherwise than "Positively Startling Information" in the form of a statement that has appeared a few days ago in an American Textile Journal which claims to be authentic in regard to its information:

Some Wonderful News.

The statement in question deserves even greater publicity, so I make no apology for its reproduction here.

Thus, according to the buyer of linens for one of the most prominent dry goods retail stores in New York:—

"Price is the keynote of the present linen situa-
"tion, because the public steadfastly refuses to pay
"the exorbitant prices of war years, and it is up to
"the manufacturers of linens to do their share to-
"wards reviving business by reducing their prices
"slowly.

"Further, there are plenty of stocks of linen
"available in the world, even if demand should sud-
"denly become very much greater.

"With cash down, it is possible to buy linens,
"fancy linens included, for less than they could
"have been bought at any time during the last seven
"years."

Yet Worth While.

Frankly, were it not that these statements are attributed to a buyer for a linen firm of world wide reputation, and are given publicity in a serious journal, one would feel inclined to believe that the guileless editor had been badly fooled. Nevertheless, their publication serves one good purpose as a starting off point in describing the present linen position and prospects, and my information is derived from those who should really know best, namely, linen manufacturers and merchants who have been engaged during their lifetime in the industry.

Analyzing the assertions made above, we may take first the sentence which puts it that to-day for cash "linens, fancy linens included, can be bought for less than what they could be bought for at any time during the last seven years."

Quite a Different Story.

The real truth is very, very different. In fact, taking current quotations of six leading linen firms—and I have gone to considerable trouble to find out accurately—linen in general, whether in the piece or made up, is priced at between two and a half and three times higher than during the pre-war year of 1914.

Taking damask as an example, compared with the 210 per yard gladly accepted seven years ago. I have been privileged to see the full correspondence proving how a Belfast manufacturing firm, whose name for supreme excellence of products is a household word in all parts of the globe where linen is used, refused just last week a big order for several items and pieces, although offered as high as 600, i.e., almost three times the price accepted in 1914. Moreover, somewhat similar advances operate in the case of all fancy linens and most other lines. Hence so much for the veracity of statement No. 1.

Are the Public Buying?

Now to another of these assertions, namely, that which puts it that price is the key note of the present linen situation, because the public steadfastly refuses to pay the exorbitant prices of war years, and it is up to the manufacturers of linen to do their share towards reviving business by reducing their prices slowly.

Quite so.

Undoubtedly the most elementary student in economies knows that prices must ever be a very powerful motive in all business, but has reduction of prices increased demand in the case of all commodities? It is obviously overlooked that linen is always classed as a luxury more or less, and with the general monetary stringency throughout the world, people just now are rather averse to luxury buying. To do so would be contrary to human nature as it is constituted.

Linen Buying Steadily Increasing.

Further, with the adverse rates of exchange ruling an extremely large section of the world, as in most European countries, cannot purchase British linen goods of any description. Nevertheless, it will be admitted that despite these great obstacles the public are NOT steadfastly refusing to buy linen goods. In fact,

ture of 80°C. for another ¼ hour, and then wash the goods well and soap them for ten minutes in tepid soap; finally wash and dry. The colors thus obtained may be topped with basic colors if it be required to brighten or darken them, or to give them a bronzy appearance.

We recommend for this special class of work the following colors:—

Ultraviolet
Prune Pure
Fast Green
Alizarine Orange

all of which yield level dyeings, either on the above mordant pure and simple, or on one previously dyed in logwood, sumac or quecitron bark, etc.

(b) Another method more generally employed because it is more convenient and more rapid, is known as "Dyeing in the Hot-Flue," or "Slop-padding," or "Foularding." It consists in uniformly impregnating the cloth with a slightly thickened mixture of coloring matter and mordant (or simply of mordant alone), followed at once by a gentle drying in a heated chamber furnished with guide rollers, over which the cloth passes in a continuous manner. An acid chlorate-prussiate discharge is printed on the padded and dried cloth, which is then steamed. The steaming serves the double purpose of fixing the color and of bringing about the decomposition of the discharge, with the result that chlorine is liberated and destroys at once the color under the printed parts, thus producing a white pattern on a colored ground. After steaming the goods are passed through a chalk bath and if necessary through bichromate of potash (1-2 gr. per litre), followed by the usual washing and tepid soaping to clear up the whites and get rid of any thickening that may still remain.

The fluidity of the color solutions used in this process may vary within certain limits according to the kind of arrangement adopted, but in no case must the colors be very thick (nor yet too thin), otherwise they will not penetrate the fibre evenly, and irregular colors will result.

The dyeing must take place at a moderate temperature, in order to avoid premature fixation of the color, in which case the discharge would be imperfect, or, at least, could only be obtained completely by an increase of strength to a point at which the cloth would run a grave risk of being tendered. This precaution applies only to dark grounds.

Discharge effects in black, white and colors may be obtained on light grounds, whether these grounds have been steamed and fixed or not. In printing with discharges and effects of black or mordant colors on fully fixed and soaped light ground shades of other colors, it is advisable to steam twice after printing, in order to ensure a better fixation of the applied colors and the black, and to obtain a more perfect white discharge. In other respects the process is practically identical with the preceding one.

According as to whether the ground shade obtained by padding has been produced by a mordant-color of a direct Azo color, it will be necessary to modify the type of discharge employed. Mordant-colors require a chlorate-prussiate or oxidizing discharge, whereas direct and Azo colors require a tin salt or a hydrosulphite (reducing) discharge. By analogy it is easy to deduce that the mordant colors may also be used in conjunction with shades obtained from sulphur and vat dyes.

The oxidization or chlorate discharge, when printed on unsteamed mordant color grounds, is usually composed of a thickened mixture of sodium chlorate, citric acid, and yellow prussiate of potash or soda.

On the contrary, if it is required on grounds already steamed and fully developed and fixed, it must be strengthened, as those grounds are more resistant. It is made up, therefore, of chlorate of soda, chlorate of alumina and red prussiate (with or without the addition of citric acid)—a combination much more powerful in its action, but liable to attack the cotton fibre unless great care is exercised in its application.

For thickening purposes we recommend starch paste at 1 or 2 lbs. per gallon, rendered softer by a proportion of British gum.

The steaming of chlorate discharges is best effected by moist steam, dry steam being prone to give an incomplete discharge.

(c) In the discharging of dyed grounds it may be required to give not only effects of white and of black, white, and (say) bark blue, but also effects containing, in addition, much brighter and purer colors. In this case it is necessary to add to the discharging agent such basic or other colors as will withstand, but not destroy, its discharging power. For example: if on a light ground obtained from a mordant color it is desired to discharge a three-color pattern in white, dark blue and pink, and printing colors will be as follows:—

White: Chlorate prussiate discharge.

Pink: Chlorate-prussiate discharge containing safranine and tannic acid.

Dark Blue: Ultraviolet LPG, or Prune pure.

It will be evident from the foregoing that, by ringing the changes on the shades of the dyed grounds and of the discharge effects printed upon them, it is possible to obtain an almost infinite variety of fast discharge styles.

On a light indigo ground, a three-color effect of white, dark blue and yellow can be produced, without any difficulty, by printing (1) a bichromate discharge (50 grs. per litre), (2) a steam color containing Prune pure, and (3) a discharge yellow consisting of chromate of soda, chromate of lead (chrome yellow) and albumen. The three colors are, of course, printed simultaneously. The cloth after printing is steamed to fix the Prune pure, and then passed through an acid bath to bring about the discharge of the indigo by means of the chromic acid which is liberated from the bichromate. The same effect can be obtained in another way, thus:—Print (a) chlorate-prussiate white, (b) Prune pure, and (c) a yellow discharge of chlorate of chrome, nitrate of lead and red prussiate; steam and wash. Such efects are numerous, and it is not our intention to review them in detail.

(d) Discharge of Colored Grounds.

Although this method, strictly speaking, is merely a modification of the preceding, we deem it advisable to place it in a separate category, since it refers more especially to the production of dark rich effects heavily charged with pattern (blotches, broad stripes, etc.), which are obtained by printing mordant colors in combination with small objects discharged white. This application of our colors appears to us the more interesting when the grounds have been dyed with direct colors (developed or not), with Azo colors on a naphthol prepare para red, alpha-naphthylamine claret, etc.), or with oxidation colors such as, for instance, Aniline Black and Paramine Brown.

The white, in general, for this style consists of a reduction discharge; and the printed ground contains, in

Ultraflavine SD	30 grs. (3 lbs. per 10 gallons)
Ultraviridine B	30-80 grs. (3 or 8 lbs. per 10 gallons)
Ultracyanine OO	30 grs. (3 lbs. per 10 gallons)
Ultraviolet LGP, RP, B, MO	30 grs. (3 lbs. per 10 gallons)
Gallo Blue R	30 grs. (3 lbs. per 10 gallons)
Ultracorinth B	20 grs. (2 lbs. per 10 gallons)
Fast Green T	100 grs. (10 lbs. per 10 gallons)
Prune Pure Ultracyanine RR, SC	25 grs. (2½ lbs. per 10 gallons)
	35-45 grs. (3½-4½ lbs. per 10 gallons)
Alizarine Yel G	30-40 grs. (3-4 lbs. per 10 gallons)
Brill. Delphine Blue B	10-20 grs. (1-2 lbs. per 10 gallons)
Ultraalizarine S	30-60 grs. (3-6 lbs. per 10 gallons)
Indochromine T. RR	20-40 grs. (2-4 lbs. per 10 gallons)
Aliz. Orange R	15 grs. (1½ lbs. per 10 gallons)
Ultraviolet B	25 grs. (2½ lbs. per 10 gallons)
Sky Blue B	25 grs. (2½ lbs. per 10 gallons)
Parme Paste	100-300 grs. (10-30 lbs. per 10 gallons)

Any printing color of the above concentrations may be reduced, by the addition of extra thickening, for the purpose of giving lighter shades, which retain all the brightness of the standard color.

In the preparation of printing colors care must be taken to, first of all, dissolve the coloring matter in the hot water and acid; then add it to a portion of the thickening previously heated, and stir the mixture until it is perfectly homogeneous; when this mixture is cool, add the remainder of the thickening, stir again, and add finally the requisite quantity of the appropriate mordant. After straining by any of the methods in general use, the color is ready for the printing operation.

Whatever method of printing is adopted (block or machine) the printed goods must be carefully dried, either in hot air or by passing over steam-heated cans, before being sent forward to undergo the steaming process. Steaming may be performed by any one of three methods, viz., (1) in the cottage steamer, (2) by passing continuously during the course of an hour through the continuous steamer, and (3) by a rapid passage through the Mather-Platt steam ager. It is well to note, however, that the two first methods are preferable to the third, for the reason that a prolonged steaming fixes the lakes much better than a short steaming.

The after-treatment of the printed and steamed goods consists in passing them through a bath of chalk and water, followed by a thorough wash in clean water, and concluded by a soaping in the full open width in a continuous open-soaping machine. After drying, the soaped goods are frequently submitted to the action of weak bleaching powder solution, followed by a short run through steam, to clear the white unprinted parts of the cloth which may have been soiled or "scummed" during the printing process.

If basic colors have been printed along with the mordant colors, it is necessary to pass the steamed goods through a tepid bath containing chalk and tartar emetic. The object of this treatment is to produce a compound lake of basic color and tannate of antimony, which is much faster than the simple tannate of the color-base already-formed during the steaming. Soaping and washing, of course, follow as usual. In addition to basic and direct colars, the mordant colors can also be printed along with colors developed by oxidation, sulphur colors, vat colors, and the Azo colors on a naphthol prepare.

Discharge Effects on Dyed Grounds.

These mordant colors lend themselves admirably to the production of the many effects obtainable by the well-known dyeing and discharging methods in general use. Whether it be a question of simply obtaining a white pattern on a dyed ground, or of producing a more ambitious effect in, say, black, colors and white on a similar ground, it will be found that our mordant colors fulfill every requirement, and that they are capable of yielding an immense variety of styles.

As different effects require different treatment, it is not possible to give a general method, and it is necessary, therefore, to split up the processes into groups, such as, for instance, the following:—

(a) White reserves under mordants afterwards dyed up in mordant colors.

(b) White and colored discharges on padded grounds.

(c) White and colored discharges on dyed grounds.

Other groups might be added, but as they consist for the most part of modifications of the above, their inclusion would be of little value.

The following descriptions of discharge processes will sufficiently illustrate the principles underlying the usual methods employed in practice.

To obtain a white pattern on a dyed ground, recourse may be had to two methods:

(a) The bleached cloth is first of all mordanted in acetate of chrome (with or without an addition of acetate of alumina or iron), or in bisulphite of chrome. It is then dried and printed with an acid discharge consisting of thickened solutions of either citric, tartaric or oxalic acids, and sometimes containing in addition the bisulphates of ammonia or soda. After drying gently the printed pieces are either steamed 3-4 minutes in the Mather-Platt, or hung for a time in the oxidizing or "ageing" rooms; they are then given a treatment in a warm chalk bath, which has the effect of both fixing the mordant and of eliminating the acid salt from the printed parts. The chalk bath is repeated several times. The goods are now well washed, dyed with a suitable mordant color, washed again, soaped lightly, washed and dried, and if necessary cleared with weak "chemic" liquor.

The mordant employed marks between 5-10° Bé. and the acid discharge white may be composed as under:—

650 grs.	British gum thickening
135 grs.	Water
25 grs.	Citric Acid
150 grs.	Bisulphate of Soda ($NaHSO_4$)
40 grs.	Acetate of Soda
1,000	

The steaming in the Mather-Platt may extend to 5 minutes at 95°C.

The chalk or "dunging" bath contains 5 grs. of chalk per litre of water, and is run at a temperature of 60°C. It must be replenished more or less frequently according to the weight of pattern printed in acid. The operation of dunging is usually performed continuously through a series of several becks.

The dyeing is carried out in the rope form in a bath containing the necessary dyestuff, together with a little Acetate acid and glue size. According to the depth of shade required, the dyebath is charged with 2½-5% of dyestuff on the weight of the cloth. The dyeing is commenced cold, the temperature being raised gradually during the course of about ¾ hour to 95°C. Maintain the bath at a minimum tempera-

The Mordant Colors in Calico Printing with Special Reference to Ultra Colors

Written specially for the Canadian Textile Journal).

Of the numerous groups of colors used in calico printing, the group which comprises what are known as the Mordant Colors calls for special mention. These valuable colors, in themselves, possess no coloring power of any practical value, require for their full development and fixation on the cotton fibre, to be combined with certain suitable substances known technically as mordants hence their name.

In their application the Mordant colors are distinguished from the Basic colors (which require for their fixation both a tannin substance and a metallic compound) by the fact that, almost without exception, their complete development and fixation are effected by combining with a single metallic compound in the form of an easily dissociable salt.

This fixation, which is brought about by the action of steam at a high temperature, gives rise to a highly colored lake varying in shade according to the particular mordant employed.

The mordant colors are derivatives of various groups, viz., the Azoic, Oxyquinone, Ocycetone, Phthaleine, Oxazine, Thiazine, Quinonoxine (or Nitrosoderivatives), and Anthraquinone groups, and are met with under the respective names of:—Azarine S, Alizarine Black S, Gallocyanine, Anthracene Violet, Gallein, Alizarine Violet, Naphthol green or Fast green, Alizarine red, Galloflavine, Alizarine yellow, etc., etc.

The mordant colors possess the two great advantages of (1) being of exceptional fastness, and (2) yielding a range of shades extending from one end of the spectrum to the other. Thanks to these features and to the facility with which they may be mixed either together or with other groups of colors, even vegetable coloring matters, they afford an easy, convenient and reliable means of obtaining innumerable decorative effects of great permanence and of the utmost variety in style and color.

The mordants most generally used in practice are the metallic acetates, principally those of chrome, iron, cobalt, zinc, alumina, tin, nickel and occasionally a few others for special purposes. The lactates and formiates of these metals are also useful for certain classes of work, and in particular cases the sulphocyanide and the bisulphite of chrome are to be preferred. Where it is found necessary to neutralize the acidity of the mordant, the addition of the acetates of soda or lime is made, and frequently also a small quantity of Turkey Red Oil, which serves to brighten the lake produced during the steaming process.

The Sandoz Chemical Works, of Basle, Switzerland, have specialized in the manufacture of artificial dyestuffs, produces an important group of mordant colors, and in particular the Ultra colors, which deserve the special attention of all colorists. This series of colors is widely appreciated for the excellent fastness of all its members to washing and soaping, and also for their remarkable resistance to the action of chlorine and light.

These colors are put on the market under the following names:—

Ultraflavine SD	Prune Pure
Ultraviridine B	Gallo Blue R
Ultracyanine OO, SC, RR	Alizarine Yellow G
Parme paste	Alizarine Orange R
Ultraviolet LGP, RP, B, MO	Brilliant Delphine Blue B
Ultracorinth B	Indochromine T, RR
Ultraalizarine S	Fast Green T
Ultraolive B	Gallo Sky Blue B

The majority of these colors can be mixed together in any proportion, and, if necessary, may be converted into their leuco-compounds by means of the alkali hydrosulphites. This property is important, because it allows of plain shades being dyed on the slop-padding mangle, and often, too, of these shades being subsequently discharged. Furthermore, all the above colors can be printed in conjunction with Fast Black (reduced logwood), Aniline Black, the natural dyestuffs, Basic colors and Alizarine, and also on naphthol prepared cloth, on which their fixation takes place almost simultaneously, owing to the rapid reaction between the alkali of the prepare and the acid of the mordant, whereby the metallic base is liberated in a condition to combine at once with the coloring matter.

An examination of the various practical applications of the mordant colors shows that their possible employment falls, generally speaking, into two main groups:—

(1) By direct printing.

(2) By dyeing and subsequent discharging.

Direct Printing.

In general, all the mordant colors may be used in the printing of cotton piece goods. The pieces may be either bleached or dyed, according to circumstances. In the latter case either the direct cotton colors may be employed, or the cloth may be slop-padded with mordant colors in the mangle; or yet, again, may be dyed with other classes of dyestuffs, such as the vat colors, etc. The brightness and purity of the resulting prints will be in proportion to the degree to which the cotton composing the cloth has been purified in the preliminary scouring and bleaching processes.

Although it is not possible to condense into one general formula all the details which go to the making up of a printing color, there are, nevertheless, certain limits beyond which it is not advisable to trespass to any great extent. The quantities of the several components of a printing color vary with the weight of coloring-matter taken, and consequently we think it will be useful to indicate the extreme weights between which experience has proved it best to confine oneself.

5—30 gr. Mordant color.

25—125 gr. hot water (condensed if possible).

10—70 gr. Formic Acid 85%.

945—700 gr. Starch-tragacanth paste.

15—75 gr. Acetate of Chrome 20° Bé. (32° Tw.).

If it is a question of using a coloring matter in paste form, the quantity of water must be reduced according to concentration of the paste.

The formic acid may be replaced by double the quantity of acetic acid 40°Bé, or by an equivalent of lactic or glycolic acids.

The addition of small quantities of either Turkey Red oil or castor oil has the effect of greatly enhancing the brightness of the color after the usual steaming.

The proportions of coloring matter per kilogramme of printing color usually employed in practice are as follows:—

EDITORIAL NOTES.

Empire Cotton Growing.

In connection with the £1,000,000 granted some months ago by the British Government towards increasing the cultivation of cotton in various parts of the Empire, it is reported that a hitch has taken place regarding the application of the original proposal. The grant was made conditionally that users of raw cotton in the United Kingdom would consent to a levy of 6d. per bale upon all raw cotton imported. Eighty per cent of the spinners agreed to the principle of the levy, which was collected by the Liverpool and Manchester Cotton Association. It seems, however, that the Liverpool Cotton Association took legal opinion regarding the necessary alteration in their by-laws, and were informed that such a change would not come within the memorandum of their association and would therefore be invalid; and that if agreement to alter the memorandum were arrived at, the by-law passed would not be legally enforceable. It has now been decided that the Federation of Master Cotton Spinners Associations, the Cotton Spinners' and Manufacturers' Association, and spinners outside those bodies, be approached with a suggestion that legislative action be taken to make the levy compulsory and universal.

British Mills Closing.

It is reported from Manchester that on account of trade depression the Master Spinners' Federation have taken a ballot of the members using American cotton re working short time, the proposal being to reduce production 50 per cent during December. The ballot failed to give the necessary majority in favour, and the federation decided to let the matter drop. Independently of the ballot, however, production is being curtailed, and a number of mills have closed for an indefinite period.

German Competition.

That the menace of German competition helped by preposterously low wages and a depreciated currency, is a very real one is the contention of the Textile World editorially. We give its summing up of the mater, for, mutatis mutandis, much of the following is as applicable to German competition with this country as with the United States: "Unless an adequate tariff barrier is soon provided this country will be flooded with cheap German cottons, woollens, hosiery and fancy knit goods for which orders are now being placed by a small army of American buyers. A tariff that would be adequate to protect us against the products of English and French mills would be ineffectual in the case of the much cheaper German goods sold on the basis of a depreciated mark. Even the American valuation system will not equalize fully the competitive advantage that Germany has over England, France and other countries having higher production costs and less depreciated currencies, but it is the most scientific and adequate remedy for this tariff exigency that has been proposed and it behooves domestic manufacturers to fight to the last ditch for its retention in the pending tariff bill."

Getting On Working Basis.

In Bradstreet's Review of the Business Year, it is stated that a notable feature of the past year was that about the first of the business divisions to rally were those which figured most prominently in the extravagances of 1919 and were first to feel the unfavorable influences of 1920. We refer, of course, to the textile and kindred industries, generally spoken of as the apparel trades. Most of these went through their worst experience in the last months of 1920, when shutdowns followed the buyers' strike of that year. Many of the so-called barometer industries, notably iron, steel, coal, lumber and transportation, did not show much, if any, improvement until the late summer, but these had been among the last to recognize the facts of 1920, and apparently it took them, as it did the apparel trades, nearly a full year to get down to a working basis. For this latter, the reluctance of the related lines of organized labor to recognize and meet the situation was, according to common report, partially responsible. This and the refusal of a great many retailers to set their houses in order in the year 1920 when depression first loomed, and later finding that the reduced purchasing power of the masses of the population had prevented their unloading unwieldy stocks of goods, were popularly regarded as brakes on the wheels of progress. In this connection, it would seem as if the large retailers, department and chain stores, found it both advisable and easier to move faster than did others. Because of reduced purchasing power among the greater part of their clientele, the mail-order houses, who naturally cater largely to the agricultural sections, appeared to be hampered in their efforts to get on a solid basis of good sales at the reduced prices.

"COTTON FACTS."

The 1921 Edition of "Cotton Facts," published by the Shepperson Publishing Co., and characterized by "Commerce and Finance" as the Bible of the Cotton Trade, is now ready.

"Cotton Facts" covers thoroughly every branch of the business from the production and marketing of cotton to its manufacture and distribution. For example, it gives the latest figures, from official and other reliable sources, concerning the acreage and yield of cotton, its condition during various periods of its growth the surrounding climatic conditions affecting its growth at different points in its maturity and the date harvesting; all covering a series of years, which makes the book of the greatest assistance in forecasting another years crops. Facts and figures concerning the world's movement of cotton, exports, imports, amounts of sales, values and prices, market fluctuations, distribution, consumption, etc., etc.,

that their own agricultural products should be admitted duty-free into the United States. It was just to guard against this—in other words, to safeguard American agriculturalists from competition from Canadian agricultural importations—that the United States' Emergency Tariff Act was primarily framed. In such circumstances, it is obvious that if Canadian agricultural products are to be admitted duty-free into the United States, it will only be in return for concessions in the way of large reductions in the Canadian tariff on manufactured commodities—**including textiles**—from the United States.

We have dealt at some little length with the platform of the Progressive party, in order to show what many of the industries of the country—and certainly not least the textile industry—would have had to expect if that party, by reason of a strong representation in the Government, had been entrusted with a substantial, and, perchance, even a dominant, share in shaping the fiscal policy of the Dominion. Happily, that peril seems to have been escaped for the present. The majority of the members of the new House of Commons are, we believe, in favor of protecting our industries. And it may well be that the very breakdown of the negotiations looking to a coalition between the Progressives and the Liberals will give to the right wing of the latter party an influence in the Government a good deal greater than it might have possessed had the abortive negotiations in question not been set on foot at all.

The Cabinet formed by Mr. King derives by far the greater portion of its ability and acumen from Quebec and the Maritime Provinces. And there is good ground for the assumption that, among these Ministers from that part of Canada which is east of Ottawa, in tariff revision as in other departments of statecraft, the counsels of moderation will prevail.

GERMAN DYES IN CANADA.

Mr. G. T. Milne, H. M. Senior Trade Commissioner in Canada and Newfoundland, writes us that in a recent issue of the "Hamilton Spectator," it is stated that, while there has been very little demand in Allied countries for goods of German manufacture since the outbreak of war, the sale of German dyes in Canada and the United States forms an exception. He says that it is stated that the reason for this is that, although several substitutes have been tried in Canada, Great Britain and the United States, scientists have not yet discovered anything that compares with the German product. A traveller for a large Montreal firm is reported as having stated that Hamilton merchants had purchased large quantities of German dyes.

The Trade Commissioner goes on to say: "According to my information, the last mentioned statement is not quite accurate, as British dyestuff makers in close touch with the Hamilton trade do not agree that large sales of German dyes have been made in that district. This would appear to be borne out by the statistics of imports of aniline dyes to Canada during the month of September last. These are:

Canadian Imports from	Lbs.	Value.
United Kingdom	21,000	$21,000
United States	92,000	91,000
Germany..	4,800	15,000
Switzerland	10,000	16,000

"It would seem, therefore, that the British and American houses are importing colours at the value of about $1.00 per lb.; in fact, for a period of six months ended September, it will be found that the United Kingdom dyes were valued at an average of 60c. per lb., whilst the German values for the same period worked out at $3.00 per lb. This looks as if they are able to pay only to import and sell their so-called high-priced specialties, and it is admitted that they will always have certain lines on which neither the United Kingdom nor the United States manufacturers will be able to compete."

The Trade Commissioner also contends that the statement that British firms can make only substitutes is also incorrect, as it has always been the policy of British manufacturers not to manufacture any colour unless they are able to do so in sufficient quantities and at a price and quality which would yield at any rate a fair share of the world's business. Hence the products already made do not fear comparison with any chemically similar compounds of either German, Swiss or American make.

Before the war Germany had to depend on outside sources for her supply of coal-tar intermediates, and seeing that she has now lost her best coal fields, it is apparent that she will now have to purchase more of these intermediates from outside sources than before. In view of Germany's depreciated currency it is apparent that she will now have to pay high prices for her raw materials, and unless her exports of dye-stuffs are far greater than her imports of raw materials, the state of her exchange will operate very much against her.

Our correspondent continues as follows: "The methods by which Germany obtained domination in the dye-stuffs industry are too well-known to need enlarging upon further, and I can assure you that British manufacturers are keenly alive to the business to-day. There is a tendency on the part of Canadian buyers to obtain samples and quotations from German makers, but at the same time British firms are being given every assistance by Canadian business men to meet whatever prices are being quoted by German competitors. I have confidence in the common sense of the Canadian user and also in the ability of the British manufacturer to give Canada exactly what she requires and feel that our German competitors will meet much difficulty in their efforts to obtain the control of the Canadian dye-stuff industry again."

EDITORIAL

A HAPPY NEW YEAR.

With the advent of a New Year, business naturally "turns over a new leaf," so to speak, and resolves (in much the same way as do many of us as individuals) that it will be better in the future than it has been in "the year that's awa'." In one sense, it is true, the year 1921 did not prove much of a disappointment. Most people with any sort of prescience anticipated that business would be sluggish and that prices would decline. And such, in fact, turned out to be the case.

On the whole, the textile industry has come through the past trying year with an eminently gratifying success. It has stood up, in a period of acute, and, in fact, almost unexampled depression, far better than have many other of our large Canadian industries. That concerns engaged in the manufacture of textiles have passed through this trying time so successfully is due, in large part, to the fact that they were wise enough to refrain from any senseless, if spectacular attempts at expansion during the year. In large part, too, it is due to their having built up adequate reserves.

The outlook for the New Year is, in our judgment, one of tempered encouragement. In some lines, quite a good volume of business is being done. In others, conditions are improving gradually. Speaking generally, stocks in the hands of both wholesalers and retailers are light. The stiffening in prices of some raw materials has tended to strengthen the market for finished goods. And altogether a period of more active buying is distinctly a probability of the near future.

In wishing our readers—as we do with all sincerity—a very Happy New Year, we do so in the firm conviction that 1922 is going to witness considerably enhanced prosperity for the textile industry as a whole.

THE POLITICAL SITUATION.

The political situation, since our last issue, has shown itself to be of a highly kaleidoscopic character. Rumors and rumors of rumors have been rife on every side. But amid much that has been uncertain, this, at least, appears to be pretty clear: First, that Hon. W. L. Mackenzie King made overtures to the Progressives to join his Government and, secondly, that this essay of his failed, and that its failure resulted in the formation of the present Cabinet.

At this stage, it is not of prime importance to discuss whether Mr. King, if, indeed, he made the overtures in question, did so because he believed that, in the present state of parties in the House of Commons, the Government of the country could best be carried on by means of a coalition; or because he personally was more in sympathy with the attitude of the Progressive party towards current affairs, than with that of the conservative wing of the Liberal party. Nor it is now of prime importance, either, to discuss whether he failed to arrange terms with the Progressives because of a hostile sentiment among the latter to a coalition with the Liberal party on any basis, or because such terms as he was prepared to concede did not satisfy the Progressives' demands.

The great thing, so far as the textile industry is concerned, is that the party which professes extremist fiscal views is not now to wield a formidable influence in shaping the fiscal policy of the country. Had the Progressive party been strongly represented in the Government, it would almost certainly have made a determined attempt—for it is quite sufficiently well seised of its own importance—to translate some of its Free Trade doctrines, or doctrines approximating to Free Trade, into concrete enactments.

No industry has more to fear from any "monkeying with the tariff," in the direction of Free Trade than has the textile industry. One of the main planks in the Progressive platform is "an immediate, substantial, all round reduction of the customs tariff." Another is the increase of the British preference to fifty per cent. of the general tariff rates. The effect of such an increase in the British preference—to say nothing of "an immediate, substantial, all round reduction of the customs tariff"—would be little short of disastrous on the Canadian textile industry, and particularly on that branch devoted to woollens. For, of course, the increasing of the British preference would be equivalent to reducing the protection on Canadian woollen goods in competition with importations from Great Britain. And this, too, at a moment when increasing British competition, helped by the present exchange situation, is a serious threat to the woollen industry in Canada.

Nor are the above the only directions in which the Progressives, if they had their way, would seek to "amend" the tariff in a manner inimical to the interests of the textile industry. For, in their platform, they further demand that "an effort be made to secure unrestricted reciprocal trade in natural products with the United States." What they want is

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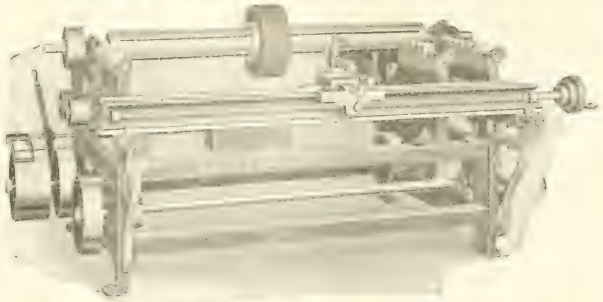

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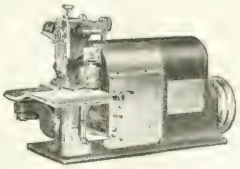

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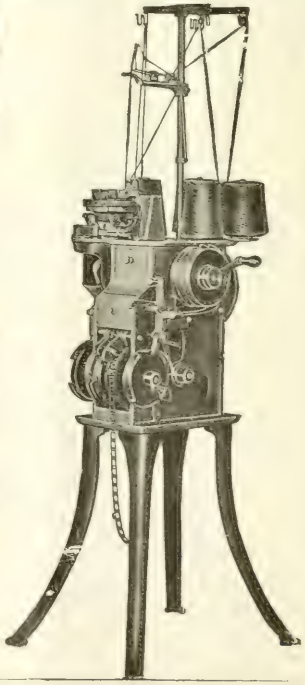

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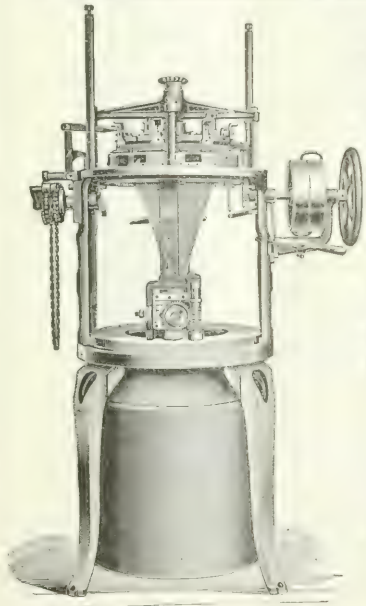

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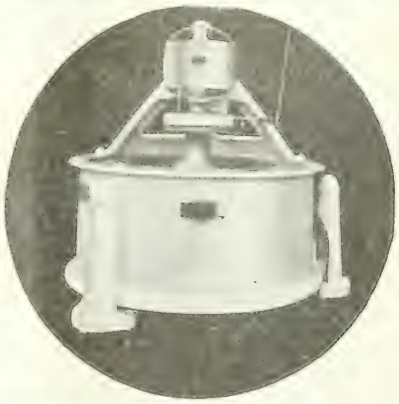

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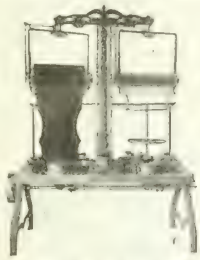

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Saving in labor will pay for the machines.

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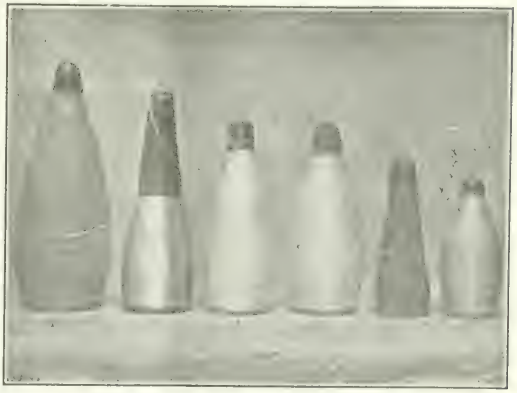

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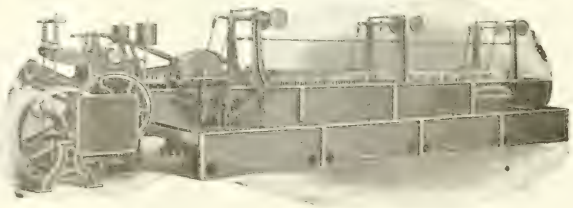

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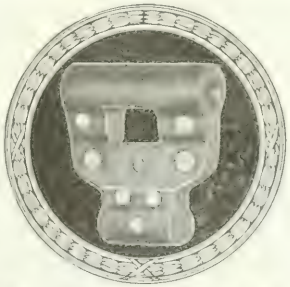

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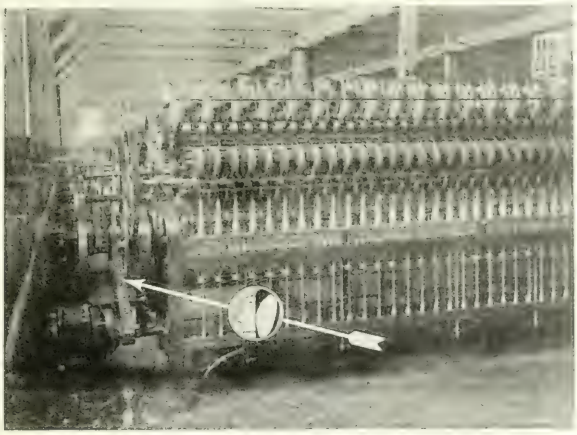

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Note these Results!

"50% saved on soap and soda."
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"Production increased in weaving due to evener and stronger yarn."
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"Our finished cloth is now clean, allowing us to reach markets we could not before touch."

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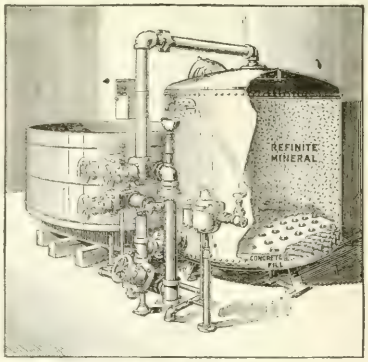

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Refinite Perfect Soft Water will remove and eliminate boiler scale and attendant troubles.

The Refinite Water Softener is the only system using "**REFINITE**", a natural water softening mineral. — Easily and quickly installed — No expert supervision required. Our representatives will be glad to demonstrate, without obligation, what Refinite will do for your particular need.

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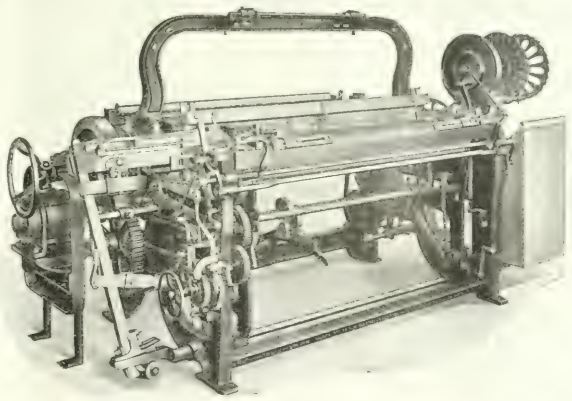

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Stafford looms increase production. They substantially reduce weaving costs. They produce fabrics unsurpassed in quality.

Stafford automatic loom are not an expense, they are an investment.

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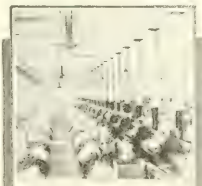

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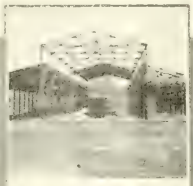

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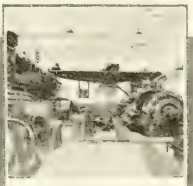

Degraco Paints, Varnishes and Enamels *are made in all colours for interiors and exteriors, for every service requirement.*

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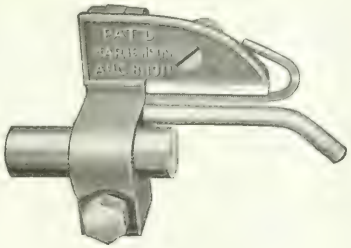

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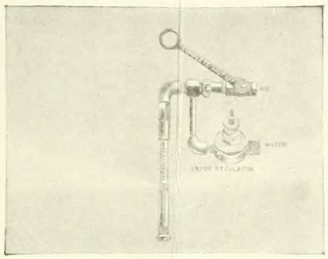

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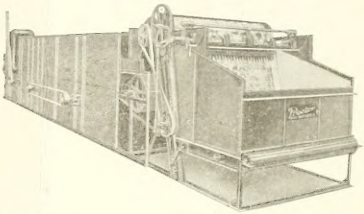

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for all textile raw stock, fibrous and loose materials.
Famous for perfect drying, perfectly economized.
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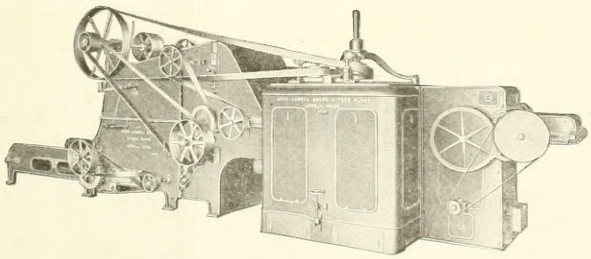

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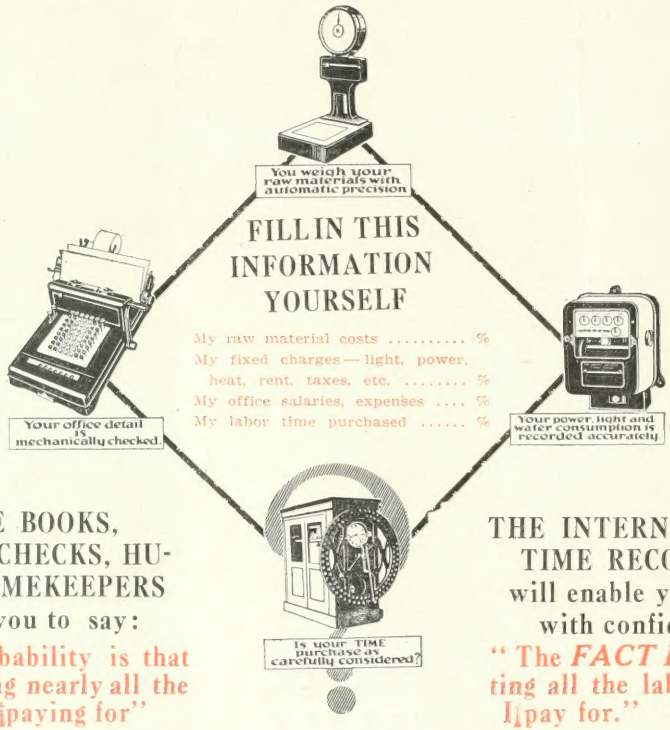
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